

REMARKS

In the Office Action mailed March 31, 2009, the Office rejected claims 1-39 under 35 USC §103(a) for alleged obviousness based upon JP 358124713 to Mizumaki in view of van Duffel et al., and further in view of US 2003/0163877 to Baker et al.

In this response, reasons are presented as to why the pending claims are patentable over the cited art. In addition, claim 23 was amended to correct a typographical error. In view of the clarifications presented herein, it is respectfully submitted that all claims 1-39 are patentable over the cited references.

A. Rejection of Claims 1-39 Under §103 Should be Withdrawn

Of the pending claims, claims 1, 19, 21, 32, and 37 are independent claims. Each of these claims is as follows. Claim 1 is directed to a water-swellable clay mineral laminated powder, in which a layer of ionic molecules having two or more ionic functional groups is laminated on the surface of a base powder particle, a layer of water-swellable clay mineral is laminated thereon, and the layers are sequentially laminated so that the surface charge or the ionic charge of each layer is alternately positive and negative.

Claim 19 is directed to a method of producing a water-swellable clay mineral laminated powder comprising an ionic molecule adsorption process for an ionic molecule adsorbed on a base powder surface, wherein a base powder particle is dispersed in an aqueous solution of an ionic molecule having two or more ionic functional groups with an opposite charge to the charge of the base powder; and a water-swellable clay mineral adsorption process for a water-swellable clay mineral

adsorbed on the powder surface. The powder particle, after the adsorption of the ionic molecule, is dispersed in an aqueous solution of the water-swellable clay mineral having an opposite charge to the ionic charge of the ionic molecule of the powder particle surface.

Claim 21 recites a dye/water-swellable clay mineral complex, in which polybase and/or nonionic hydrophilic polymer and dye are complexed to water-swellable clay mineral.

Claim 32 is directed to an acid dye laminated pigment, in which a dye/water-swellable clay mineral complex, which having an opposite charge to the charge of a base powder, is coated on the surface of the base powder, and a polybase and an acid dye are intercalated in between the layers of the water-swellable clay mineral of the dye/water-swellable clay mineral complex.

Claim 37 recites a method of producing an acid dye laminated pigment comprising an acid dye/water-swelling clay mineral complex producing process for an acid dye intercalated in between the layers of the water-swellable clay mineral. In this method, a polybase and an acid dye are contacted with a water-swellable clay mineral in aqueous phase. The method also comprises a laminating process for the acid dye/water-swelling clay mineral complex electrostatically adsorbed on the surface of a base powder. The obtained acid dye/water-swelling clay mineral complex and a base powder, having an opposite charge to the charge of the complex, are mixed in aqueous phase.

Before addressing the deficiencies of the present rejection, it is instructive to consider the art cited in support of the present rejection. Van Duffel et al. disclose a film formed by laminating an ionic molecule (PDDA) and water-swellable clay

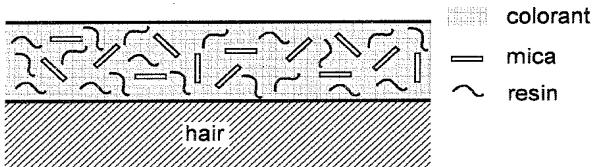
mineral onto "mica". A close reading of the article to van Duffel reveals that "mica" refers to a "mica slide" as described in the experimental section of the article to van Duffel. The "mica slide" is a typical substrate used in AFM imaging (see http://www.2spi.com/catalog/submat/mic_shet.shtml). Van Duffel used the "mica slide" merely for AFM imaging, see for example that their article is entitled "Multilayered Clay Films: Atomic Force Microscopy Study and Modeling." (Emphasis added). The "mica slide" is a plate having a dimension in the range of centimeters or millimeters, and thus the "mica" is not powder.

On the other hand, in the JP '713 reference, Mizumaki used "mica powder" as a component of color aerosol for a hair coloring agent. A person skilled in the relevant art and interested in devising a new laminated powder by a particular film forming technique, would not be motivated to use a "mica slide" as disclosed by van Duffel in a hair coloring agent as described by Mizumaki. These two teachings are from vastly different fields of art. No explanation was provided as to how one would identify these prior art references, how they would be combined, and the motivation for their combining. Therefore, it is respectfully submitted that combining the teachings of Mizumaki and van Duffel is improper, was reached by impermissible hindsight reconstruction by the Examiner, and would certainly not be obvious to the skilled person.

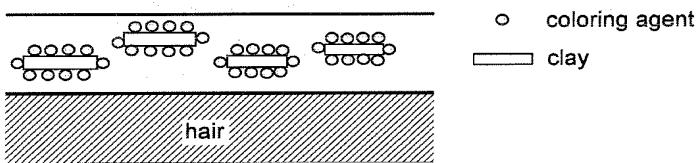
Nor would the skilled person be motivated to coat a clay mineral onto the mica powder of Mizumaki even in view of the teaching by Baker et al. in the US '877 publication. Baker teaches a hair coloring composition which contains a water-swellable clay mineral and a coloring agent. It appears that the clay mineral and the coloring agent are attached to each other by their charge interaction. Baker teaches

that the hair coloring composition has good color delivery to hair and reduced coloration of the skin. However, if a person skilled in this field of art intended to combine Mizumaki and Baker, then he or she would blend the mica and the clay mineral-coloring agent complex separately into composition (see below illustration). There is no suggestion to coat the clay mineral complex onto the mica.

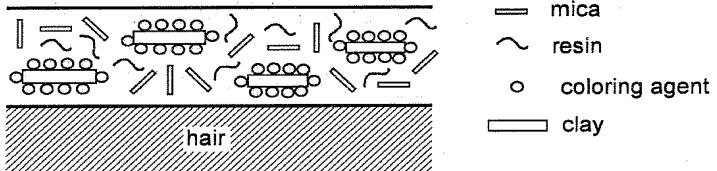
Mizumaki



Baker



Mizumaki + Baker



More specifically, claims 13-18 and 32-39 recite specific manners of combining the clay mineral and dye. For example, polybase and/or nonionic hydrophilic polymer and dye are complexed to the water-swellable clay mineral in the laminated powder of claim 13. However, none of the cited references disclose

using polybase or nonionic hydrophobic polymer in making the complex of the clay mineral and the dye (the coloring agent).

Furthermore, claims 21-31 relate to a dye/water-swellable clay mineral complex. These are not laminated powder. However, the Examiner does not mention the dye/clay mineral complex in the Office Action. Instead, the Examiner only refers to the laminated powder. It is respectfully submitted that the subject matter of these claims is readily distinguishable from the cited art.

The dye/water-swellable clay mineral complex of claims 21-31 comprises polybase or nonionic hydrophobic polymer as a necessary component. As mentioned above, none of the cited references disclose using polybase or nonionic hydrophobic polymer.

For at least these reasons, it is respectfully submitted that all claims 1-39 are patentable over the cited references.

B. Conclusion

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. IWI-16117.

Respectfully submitted,

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